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| 09/484,426 | 01/18/2000 | Jan E. Forslow | 2372-49 | 9686 |

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1100 North Glebe Road
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EXAMINER

ABELSON, RONALD B

| ART UNIT | PAPER NUMBER |
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2666

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,426

Applicant(s)

FORSLOW, JAN E.

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 22, 29-34, 43 and 57-62 is/are rejected.
- 7) ☒ Claim(s) 12-21, 23-28, 35-42, 44-56 and 63-75 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☒ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 5. 6) ☐ Other: _____

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Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

2. Claims 1-7 and 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee (US 6,161,008).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Regarding claims 1 and 29, Lee teaches a method and apparatus for an Internet (fig. 1 box 102), a public mobile access data network providing a mobile node data access to the Internet (col. 13 lines 61-66) and data access to the mobile node from the Internet when a point of the mobile node to the public mobile access data network changes (TID, col. 5 lines 29-33, 39-60).

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Regarding claim 29, in addition to the limitations previously listed, a radio interface (fig. 1 box 132, 134).

Regarding claims 2 and 30, a public mobility service to locate current locations of mobile nodes so that the Internet is aware of a current point of attachment (fig. 6B box 678, col. 20 lines 4-6).

Regarding claims 3 and 31, the public mobility service is provided independently of mobility services offered by a radio access technology specific network (col. 13 lines 61-65).

Regarding claim 4, the radio access specific network includes GSM/GPRS (col. 4 lines 61-66).

Regarding claim 5, the radio access specific network includes D-AMPS / AMPS (col. 4 lines 61-66).

Regarding claim 6, the public mobile access data network is operated by an ISP (col. 13 lines 61-65).

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Regarding claim 7, the public mobile access data network provides data communication between a corresponding node by way of the Internet with a mobile node (fig. 1 box 132, 102).

Claim Rejections - 35 USC § 102

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 58, 59, and 61 are rejected under 35 U.S.C. 102(a) as being anticipated by of Andersson (WO 98/43446).

Regarding claim 58, a public mobile access data network providing a mobile node data access to the Internet (fig. 3) and data access to the mobile node from the Internet (MIM, pg. 9 lines 29-31), a control entity establishing a data tunnel across the public mobile access data network between the routing node and a second node (fig. 3 box 310, 320, and tunnel 330, pg. 11 lines 3 - 6), and a forwarding entity for processing and routing packets over the tunnel (col. 11 lines 7-12).

Regarding claim 59, the first routing node is a home agent (fig. 3 box 320) and the second routing node is a foreign agent (fig. 3 box 310).

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Regarding claim 61, and the routing node is coupled to an authentication serving node to ensure the tunnel communications are authorized (pg. 7 lines 8-10).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-11 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee as applied to claims 1 and 29 above, and further in view of Andersson.

Lee fails to teach a home agent router couple to a backbone of the Internet, as specified in claims 8 and 32; plural foreign agent routers coupled to the home agent router for communicating with one or more of the mobile nodes as specified in claims 8 and 32; a data tunnel established between the home agent router

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and one of the foreign agent routers to communicate data with one or more of the mobile nodes, as specified in claims 8 and 32; the home agent router is located at a point of presence near the Internet backbone, as specified in claims 9 and 33; one or more of the foreign agent routers is located at a point of presence near the Internet backbone, as specified in claims 10 and 34; the mobile node de-attaches from the public mobile access data network at one of the foreign agents and re-attaches to the public mobile access data network at another of the foreign agents, as specified in claims 11.

Andersson teaches a home agent router couple to a backbone of the Internet (fig. 3 box 320, 330), as specified in claims 8 and 32; plural foreign agent routers coupled to the home agent router for communicating with one or more of the mobile nodes (fig. 3 box 320, 310, pg. 10 lines 2-3), as specified in claims 8 and 32; a data tunnel established between the home agent router and one of the foreign agent routers to communicate data with one or more of the mobile nodes (fig. 3 tunnel 330, pg. 11 lines 5 - 6), as specified in claims 8 and 32; the home agent router is located at a point of presence near the Internet backbone (fig. 3 box 320, 330), as specified in claims 9 and 33; one or more of the foreign agent routers is located at a point of presence near the Internet backbone (fig. 3 box 310 and

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tunnel 330), as specified in claims 10 and 34; the mobile node de-attaches from the public mobile access data network at one of the foreign agents and re-attaches to the public mobile access data network at another of the foreign agents (roaming mobile utilizes a foreign agent, pg. 16 lines 20-25), as specified in claims 11.

Therefore it would have been obvious to one of ordinary skill in the art, having both Lee and Andersson before him/her and with the teachings [a] as shown by Lee, a public mobile access data network providing a mobile node data access to the Internet and data access to the mobile node from the Internet, and [b] as shown by Andersson, tunneling between the home agent and foreign agents, to be motivated to modify the system of Lee by implementing the specific protocols to establish tunneling between the home and foreign agents as proposed by Andersson. This modification can be performed in software. This would improve the system by providing a roaming mechanism enabling a mobile station to roam between incompatible packet networks (Andersson: pg. 3 lines 27-30).

6. Claims 22 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lee and Andersson as

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applied to claims 8 and 32 above, and further in view of Chuah (US 6,408,001).

Regarding claims 22 and 43, Lee, teaches the home agent and foreign agent routers communicate using a mobile Internet protocol (PMDNS, col. 13 lines 61-66) and as previously mentioned, Andersson teaches a tunnel (fig. 3 element 330).

The combination of Lee and Andersson is silent on the tunnel includes a label switched path that uses MPLS.

Chuah teaches the tunnel includes a label switched path that uses MPLS (col. 6 lines 43-61).

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of Lee and Andersson and Chuah before him/her and with the teachings [a] as shown by the combination of Lee and Andersson, a public mobile access data network providing a mobile node data access to the Internet, data access to the mobile node from the Internet, and tunneling between the home agent and foreign agents, and [b] as shown by Chuah, a label switched path that uses MPLS, to be motivated to modify the system of the combination of Lee and Andersson by using MPLS routing. This can be accomplished by following the MPLS protocol (Chuah: col. 6 lines 43-61). This would improve the system by making it easy to integrate into larger systems since MPLS is a standard.

7. Claims 60 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson as applied to claim 58 above, and further in view of Chuah (US 6,408,001).

Andersson is silent on the tunnel is a label switched path, as specified in claim 60; and the tunnel is an MPLS tunnel, as specified in claim 62.

Chuah teaches an IP tunnel is a label switched path and the tunnel is an MPLS tunnel (col. 6 lines 43-61).

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of Lee and Andersson and Chuah before him/her and with the teachings [a] as shown by the combination of Lee and Andersson, a public mobile access data network providing a mobile node data access to the Internet, data access to the mobile node from the Internet, and tunneling between the home agent and foreign agents, and [b] as shown by Chuah, a label switched path, to be motivated to modify the system of the combination of Lee and Andersson by using a label switched path for routing. This can be accomplished by following the MPLS protocol (Chuah: col. 6 lines 43-61). This would improve the system by making it easy to integrate into larger systems since MPLS is a standard.

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8. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lee and Andersson as applied to claim 32 above, and further in view of Mauger (US 6,507,577).

The combination of Lee and Andersson is silent on monitoring parameters relating to at least one of use and performance of the data tunnel.

Mauger teaches monitoring parameters relating to at least one of use and performance of the data tunnel (available bandwidth dynamically shared, col. 7 lines 29-33).

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of Lee and Andersson and Mauger before him/her and with the teachings [a] as shown by the combination of Lee and Andersson, a public mobile access data network providing a mobile node data access to the Internet, data access to the mobile node from the Internet, and tunneling between the home agent and foreign agents, and [b] as shown by Mauger, monitoring parameters relating to at least one of use and performance of the data tunnel, to be motivated to modify the system of the combination of Lee and Andersson by dynamically monitoring available bandwidth in the tunnel. This modification can be performed in software. This would improve the system by allowing for the

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tunnels bandwidth to be dynamically shared (Mauger: col. 7 lines 29-33).

Allowable Subject Matter

9. Claims 12-21, 23-28, 35-42, 44-56, and 63-75 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 12 and 35, nothing in the prior art of the record teaches or fairly suggests the home agent and one of the foreign agents are co-located, in combination with the other limitations listed in the claim.

Regarding claims 13, 15, 37, 38, nothing in the prior art of the record teaches or fairly suggests a virtual home agent network, in combination with the other limitations listed in the claim.

Regarding claim 21, nothing in the prior art of the record teaches or fairly suggests a home agent mobility manager and home agent mobility tunnel server coupled to the Internet backbone, in combination with the other limitations listed in the claim.

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Regarding claim 23, nothing in the prior art of the record teaches or fairly suggests the home agent injects an address associated with the mobile into the label switched path, in combination with the other limitations listed in the claim.

Regarding claim 24, nothing in the prior art of the record teaches or fairly suggests the mobile connected to two or more tunnels simultaneously, in combination with the other limitations listed in the claim.

Regarding claims 27 and 74, nothing in the prior art of the record teaches or fairly suggests variable service parameters, in combination with the other limitations listed in the claim.

Regarding claim 44, nothing in the prior art of the record teaches or fairly suggests the foreign agents assigning the mobile a care-of-address, in combination with the other limitations listed in the claim.

Regarding claim 63, nothing in the prior art of the record teaches or fairly suggests a mobile Internet protocol controller interfacing a multi-protocol label switching MPLS controller, in combination with the other limitations listed in the claim.

Regarding claim 72, nothing in the prior art of the record teaches or fairly suggests forwarding a mobile node registration to plural home agent routing nodes, in combination with the other limitations listed in the claim.

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Regarding claim 73, nothing in the prior art of the record teaches or fairly suggests the MPLS controller establishing communication with mobile node plural label switched tunnels to plural home agent routing nodes, in combination with the other limitations listed in the claim.

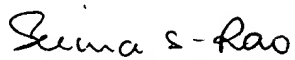
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.


Ronald Abelson
Examiner
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SEEMA S. RAO 5/16/03
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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May 15, 2003